Short Title: Access to Parks
Full Title: Percent of residents within ½ mile of a park, beach, open space, or coastline

1. **Healthy Community Framework:** Environmental Quality

2. **What is our aspirational goal:** Green and open spaces, including agricultural lands

3. **Why is this important to health?**

Description of significance and health connection

As communities become increasingly more urban, parks and the protection of green and open spaces within cities increase in importance. Parks and natural areas buffer pollutants and contribute to the quality of life by providing communities with social and psychological benefits such as leisure, play, sports, and contact with nature. Parks are critical to human health by providing spaces for health and wellness activities. Of these, physical activity helps prevent and manage many chronic conditions, such as diabetes, obesity, arthritis, hypertension, cardiovascular disease, some cancers, cognitive function, and depressive disorders. Access to physical activity resources is particularly important for rural residents, who are at highest risk of poor health compared with their suburban and urban counterparts.

Summary of evidence

An extensive body of research indicates that built environment factors correlate with better health. A recent systematic review of 204 articles showed that built environment factors, including levels of open space, were associated with increased levels of physical activity and walking. Further, an extensive body of research indicates that the presence of parks is correlated with physical activity. A recent systematic review of 20 studies examining the influence of the built environment and physical activity showed positive associations between health and environments with pleasant aesthetics, trails, safety/crime, parks, and walkable destinations. Another recent review of 50 studies reported that in general the presence of parks and recreation settings correlates with physical activity, specifically in the form of exercise or utilitarian functions, such as walking.

References:

1. Bedimo-Rung AL, Mowen AJ, Cohen DA. The Significance of Parks to Physical Activity and Public Health: A Conceptual Model. American Journal of Preventive Medicine 2005;28(2, Supplement 2):159-168.
2. Chiesura A. The role of urban parks for the sustainable city. Landscape and Urban Planning 2004;68(1):129-138.
3. Durand CP, Andalib M, Dunton GF, Wolch J, Pentz MA. A Systematic Review of Built Environment Factors Related to Physical Activity and Obesity Risk: Implications for Smart Growth Urban Planning. Obes Rev. 2011;12(501):e173-e182.
4. Godbey GC, Caldwell LL, Floyd M, Payne LL. Contributions of leisure studies and recreation and park management research to the active living agenda. American Journal of Preventive Medicine 2005;28(2, Supplement 2):150-158.
5. Kaczynski AT, Henderson KA. Parks and recreation settings and active living: a review of associations with physical activity function and intensity. Journal of Physical Activity and Health 2008;5:619-632.

4. What is the indicator?

Detailed Definition: Percent of residents within ½ mile of a park greater than 1 acre, or a beach, open space, or coastline

- Stratification: Stratification: Race/Ethnicity (8 Census groups)

Data Description

- Data source: California Protected Areas Database (CPAD version 1.8, 2012), maintained by GreenInfo Network, accessed September, 2012 from CALANDS website at http://www.calands.org/ . 2010 block-level population data by race and ethnicity from the U.S. Census Bureau (provided by California State Data Center at the California Department of Finance)
- Years available: 2010
- Updated: 10-year intervals (Census data)
- Geographies available: census tracts, cities/towns, counties, regions, and state

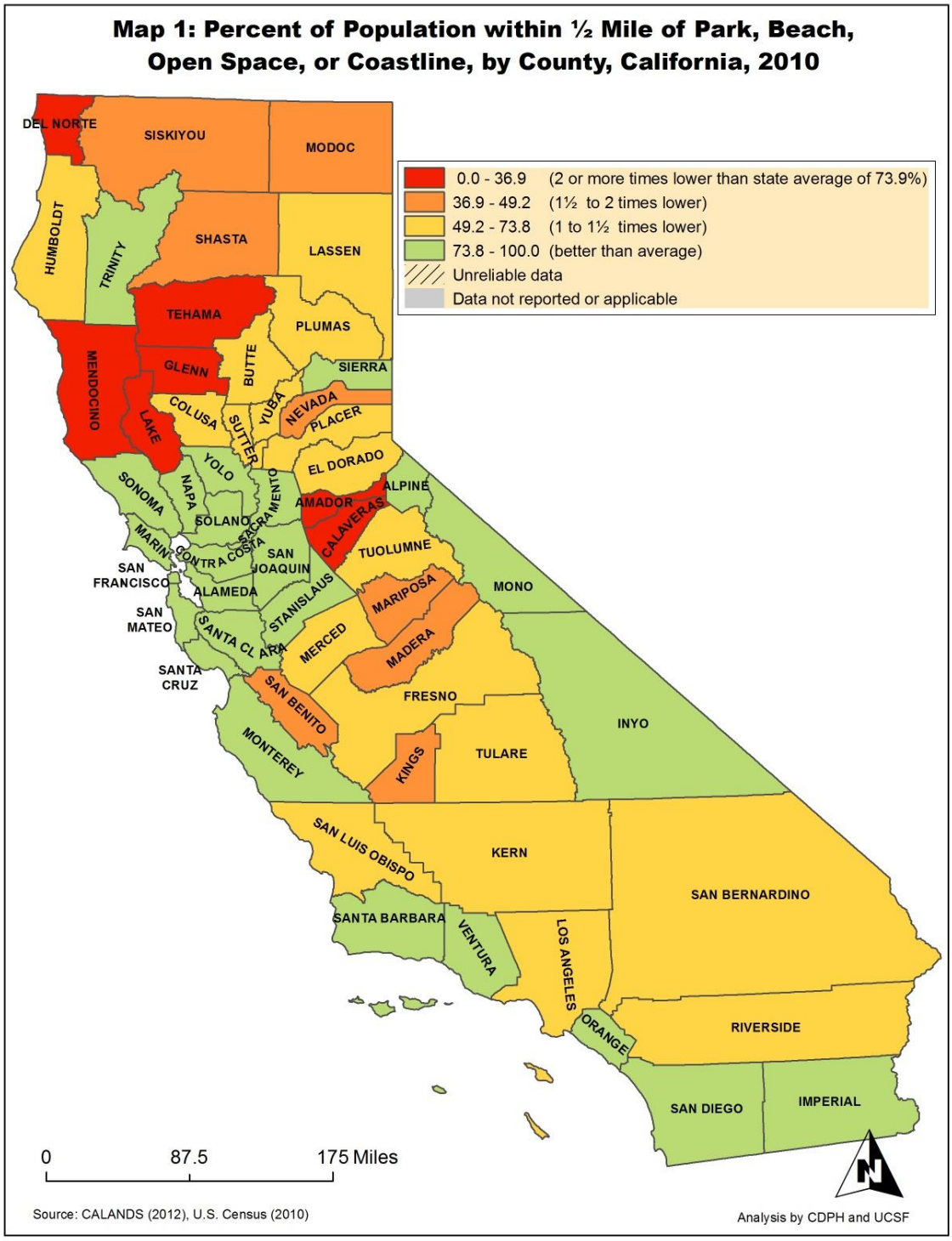
The California Protected Areas Database (updated 2012) was obtained as a shape file from the CALANDS website. The database includes open space lands including parks, as well as open space lands with other uses, including: recreation, forestry, historical/cultural, habitat conservation, water supply, scenic areas, flood control, agricultural/ranching, and general open space. Parks greater than 1 acre with 'Open Access' designation were selected for analysis. Half mile buffers were created around parks. Census blocks with centroids inside the parks buffer area were selected. 2010 block-level Census redistricting data (100% count by race/ethnicity) were merged with blocks inside the parks buffer area. Block data were aggregated by census tract, city/town, county, region, and state. The percent of residents' access to parks were calculated for each geographic level and for race/ethnicity strata. Regions were based on counties of metropolitan transportation organizations (MPO) regions as reported in the *2010 California Regional Progress Report* (http://www.dot.ca.gov/hq/tpp/offices/orip/Collaborative%20Planning/Files/ CARegionalProgress_2-1-2011.pdf). Standard errors, relative standard errors, and 95% upper and lower confidence intervals were calculated.

5. Limitations

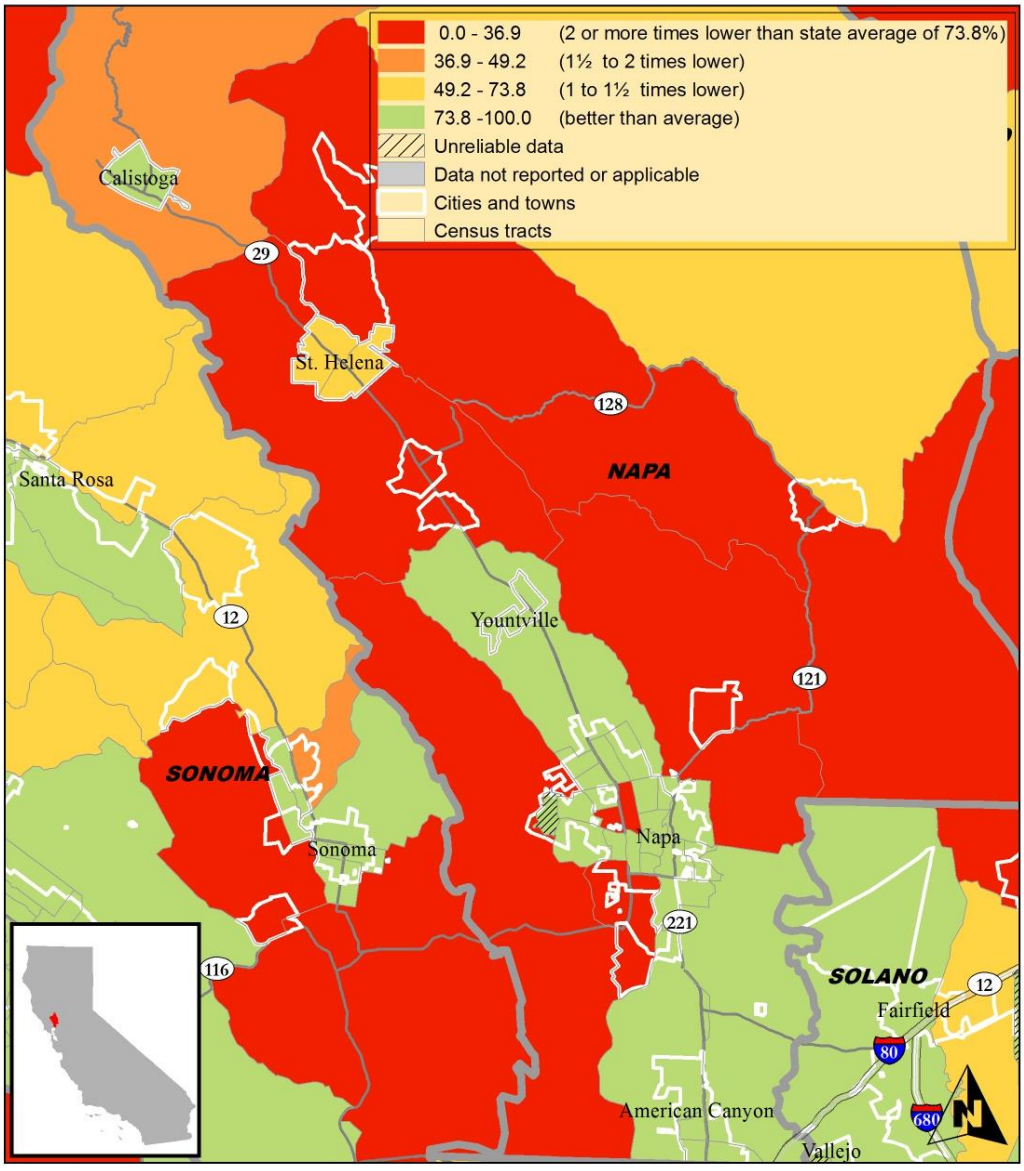
The California Protected Areas Database does not include tribal lands, lands used for active military purposes, and properties protected through easements. The indicator takes into account the travel distance to park borders, but does not take into account points of entry. The indicator does not take into account the quality of park facilities, level of maintenance, specific amenities and services offered, or safety issues. While the indicator only measures "walkable" distance, transportation to parks through private or public transit was not considered. Census blocks are designated as inside or outside of park buffers based on block centroids, which can result in some misclassification of population within buffer areas. The indicator does not include "mini parks" or "pocket parks", sometimes defined as less than 1 acre. The indicator only includes beach and coastline areas that are part CPAD, and known to be accessible to the public.

6. Projects using this indicator

The City Project. *Healthy Parks, Schools, and Communities: Green Access and Equity for Orange County*; 2011, accessed at (http://www.cityprojectca.org/blog/wpcontent/uploads/2011/03/CityProject_OCreport_ENGLISH1.pdf)


Map 1: Percent of Population within ½ Mile of Park, Beach, Open Space, or Coastline, by County, California, 2010
0.0 - 36.9 (2 or more times lower than state average of 73.9%)
36.9 - 49.2 (1½ to 2 times lower)
49.2 - 73.8 (1 to 1½ times lower)
73.8 - 100.0 (better than average)
Unreliable data
Data not reported or applicable
DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
TRINITY
SHASTA
LASSEN
TEHAMA
PLUMAS
MENDOCINO
GLENN
BUTTE
SIERRA
COLUSA
SUTTER
YUBA
NEVADA
PLACER
LAKE
YOLO
EL DORADO
SONOMA
NAPA
SACRAMENTO
ALPINE
AMADOR
CALAVERAS
SOLANO
MARIN
CONTRA COSTA
SAN JOAQUIN
TUOLUMNE
SAN FRANCISCO
ALAMEDA
STANISLAUS
MARIPOSA
MONO
SAN MATEO
SANTA CLARA
MERCED
MADERA
SANTA CRUZ
SAN BENITO
FRESNO
INYO
MONTEREY
KINGS
TULARE
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL
0
87.5
175 Miles
N
Source: CALANDS (2012), U.S. Census (2010)
Analysis by CDPH and UCSF

Map 2: Percent of Population within ½ Mile of Park, Beach, Open Space, or Coastline, by Census Tract, Napa County, 2010



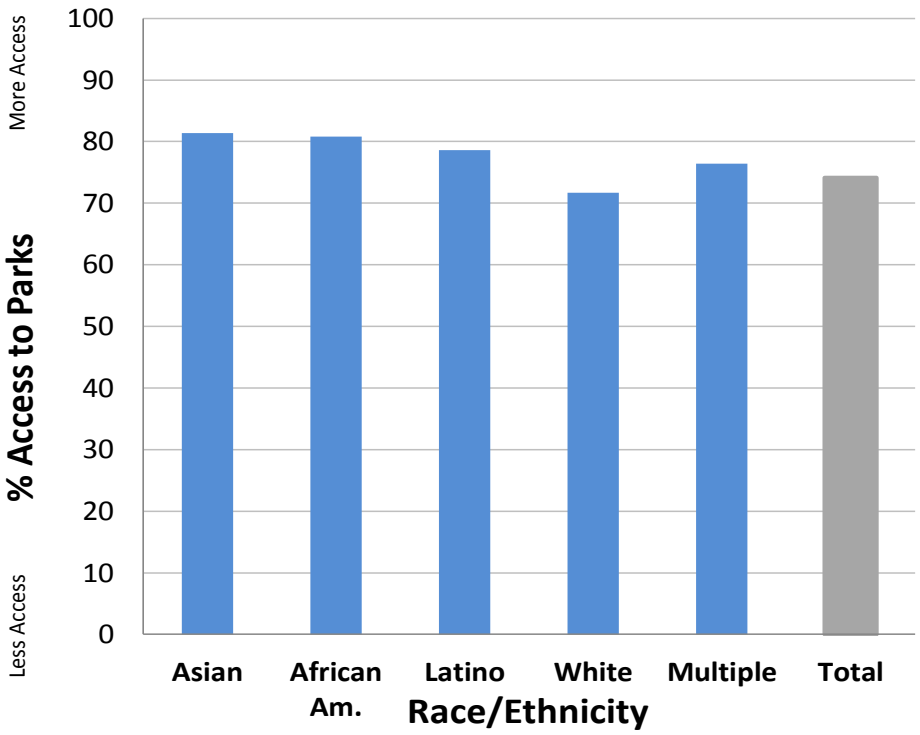
Source: CALANDS (2012), U.S. Census Bureau (2010)

Table 1. Percent of Population within ½ Mile of Park, Beach, Open Space, or Coastline, by City/Town, San Mateo County, 2010

City/Town	Percent
Brisbane	100.0
Foster City	100.0
Millbrae	99.0
Pacifica	99.0
Emerald Lake Hills	98.0
South San Francisco	98.0
San Carlos	95.7
San Bruno	95.7
Belmont	95.1
San Mateo	94.3
East Palo Alto	94.1
Daly City	93.8
Burlingame	89.1
Loma Mar	85.8
West Menlo Park	85.6
Menlo Park	85.4
Redwood City	85.2
Moss Beach	82.8
Ladera	79.1
California	**73.8**
Half Moon Bay	70.7
Montara	63.8
Highlands-Baywood Park	53.7
Broadmoor	53.5
Woodside	48.7
Portola Valley	47.1
North Fair Oaks	44.3
El Granada	43.0
Atherton	42.9
Hillsborough	24.0
Colma	17.9
La Honda	15.8
Pescadero	0.0

Data Source: CALANDS (2012), U.S. Census Bureau (2010)
* Not statistically reliable (Relative Standard Error > 30%)

Figure 1: Percent of Population within ½ Mile of Park, Beach, pen Space, or Coastline, by Race/Ethnicity, Sonoma County, 2010



Data Source: CALANDS (2012) and U.S. Census Bureau (2010)